AMENDMENTS TO THE DRAWINGS

Figs. 17 and 18 have been labeled as "Prior Art"

Attachment: Two Replacement Drawing Sheets (numbered 10/11 and 11/11, and including Figs. 17 and 18)

REMARKS

Claims 1-4 and 6-7 are all the claims pending in the application. Claim 5 has been canceled without prejudice or disclaimer. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Drawings

The Examiner asserted that Figs. 17 and 18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. Accordingly, Applicant has submitted herewith Replacement Drawing Sheets wherein Figs. 17 and 18 have been labeled as --Prior Art--.

Double Patenting

The Examiner provisionally rejected claims 1-4 and 6-7 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 7, 10, 11, 13-16, 18-24, 27, 33, 34, 36-38, and 41 of copending Application No. 10/535,936. Because this is a provisional rejection, Applicant chooses not to address it at this time.

Claim Rejection - 35 U.S.C. § 103

The Examiner rejected claims 1 and 3-4 under §103(a) as being unpatentable over US Patent 6,471,407 to Katano (hereinafter Katano) in view of GB Patent 2,383,142 to Bianco et al. (hereinafter Bianco) and in view of US Patent 5,877,433 to Matsuzaki et al. (hereinafter Matsuzaki).

Applicant respectfully traverses this rejection because the references fail to teach or suggest all of the elements as set forth and arranged in the claims.

The Examiner stated on page 4, 4th line from the bottom, that a sensor of Katano (rpm sensor 5 and/or complex sensor 37) detects the speed of the rolling elements. However, the Examiner's assertion is mistaken. Instead, the rpm sensor 5 detects the rotation speed of a hub 2, whereas the complex sensor 37 detects the rotation speed of the hub 2 and the relative

displacement of the stationary ring and the rotating ring, none of which is the same as the speed of the rolling elements.

Bianco discloses a sensor and encoder structure (end surfaces of both cages and the outer diameter portion of rotating ring axis) in Fig. 10, which is similar to that claimed. However, the sensor of Bianco is directed to simply detect the rotational speed and the rotational position. On the other hand, claim 1 sets forth a calculator which calculates the load based on signals transmitted from revolution speed sensors. Further, this calculation is made more accurate because the present application discloses a reduction in the influence of a displacement of the load upon the relationship between a variation of the load and an amount of change in the revolution speeds of the rolling elements by making the contact angles of rolling elements different mutually in each of the rows. Bianco does not teach or suggest these features.

Matsuzaki discloses that the contact angle of the rolling elements at the load side becomes larger than the contact angle of rolling elements at the non-load side when the axial load is applied to the bearing from the bottom (lower side in the preload measuring device in Matsuzaki) in an axle duplex bearing. On the other hand, in claim 1, making the contact angles of rolling elements in both rows different mutually is performed under a condition that the axial load or displaced radial load is not applied to the rolling bearing unit. In other words, in the assembled state of the rolling bearing unit (see the specification at the paragraph bridging pages 10 and 11). Thus Matsuzaki is different from the subject matter of claim 1.

Therefore, even assuming that one of ordinary skill in the art were motivated to combine the references as suggested by the Examiner, any such combination would still fail to teach or suggest the calculator as set forth in claim 1. Accordingly, claim 1 is not rendered obvious by the combination of these three references.

With respect to claim 3, none of the cited references discloses that a displacement of the load influences the relationship between a variation of the load and an amount of change in the revolution speeds of the rolling elements, let alone the expression to reduce this influence, as set forth in conjunction with the calculator of claim 3.

For at least the above reasons, Katano, Bianco, and Matsuzaki fail to render obvious Applicant's claims 1 and 3. Likewise, these references fail to render obvious the dependent claim 4.

Allowable Subject Matter

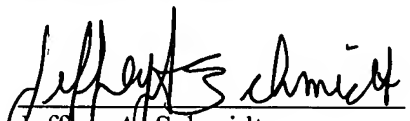
Applicant thanks the Examiner for indicating that claims 2 and 6-7 would be allowable if rewritten in independent form. In order to expedite prosecution of this application, claims 2, 6, and 7, have been rewritten in independent form and now should be in condition for immediate allowance.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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